**Trango StrataLINK 24
Models SL-24-E, SL-24-EX**

**Software v3.0
Release Notes &
Upgrade Instructions**

July 01, 2014

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Trango StrataLINK 24 v2.1.1 Release
For Model SL-24-E and SL-24-EX ONLY – <u>DO NOT</u> load into SL-24 or SL-24-X models

This release consists of the following software images

FPGA version:	0002040E
OS version	**2p6r22b0D060414**
FW version	**3p0r0D060414**
Modem Version	6201.6.47

Supported Modulation/Symbol rate combination in this release – Compression ON

Full Duplex Capacity (Mbps) - 1518/72 byte IPV4 packets UDP + VLAN Tag									
Channel Width/Sym rate (MHz)	QPSK	8PSK	QAM 16	QAM 32	QAM 64	QAM 128	QAM 256	QAM 512	QAM 1024
10/7.5	15/20	23/33	30/44	37/57	46/72	53/84	60/90	68/102	NA
14/12.2	22/34	34/53	45/70	55/84	67/102	78/120	88/137	100/156	113/174
20/16	31/48	47/73	63/96	78/120	96/150	111/173	126/198	143/222	162/251
25/20.8	39/61	60/90	80/126	99/150	120/186	140/216	160/251	182/282	206/323
30/26	47/73	71/108	95/144	118/186	142/222	167/257	192/300	218/342	247/383
40/34.8	63/96	96/150	128/198	159/246	192/300	225/353	256/401	291/456	329/515
50/42	78/120	118/180	157/246	195/305	238/371	277/431	318/497	361/569	407/641
60/52	95/144	141/222	189/294	234/366	287/450	333/522	391/612	431/678	487/726

New Features

1. Channel bandwidth set to 60 Mhz will allow 500 Mbps of throughput for large packets.
2. Radio configuration file can be exported from the radio once the FTP server has been setup. The config file can then be modified on the server itself.
3. The radio now supports auto config import. On reboot, it will look for the config file on the FTP server and if the file is available download it and compare with its current config file. If the files are different, the new config will be executed.
4. Implementing XPIC configuration the user can set the H or V polarization from the CLI and web interface.
5. ATPC is now available. This can be setup via the CLI and web interface.
6. Power control enabled with XPIC configuration.
7. User can set local or remote radio designator from the CLI and web interface.

Bugs Fixed

1. Bug fix implemented to resolve certain management stability issues.
2. Improved TX power control to prevent packet drops when changing power level settings.
3. Long term accumulative BER counter will display correctly.
4. Incorrect or out of range frequency range error message will display correctly.

Known Limitations

1. When disabling IBM management feature any VLAN IDs on the Mgmt port will be erased to avoid any non-management traffic flowing to the CPU. If IBM is re-enabled VLAN IDs will need to be added back to the port.
2. If speed command is issued the radio must be rebooted for change to take effect. When encryption feature is enabled.
3. Forgotten web interface passwords cannot be recovered due to encryption features. If web interface passwords are forgotten a physical password reset must be performed please see manual for detail instructions.
4. Port priority not functional.
5. Port pause not functional.

Software Image Upgrade Procedure – FTP
(All Versions)

Please review these instructions before starting to ensure that you have adequate time scheduled to perform the upgrade as well as fully understand the implications of the process. While all software is tested by Trango Systems on current hardware before being released, it is strongly suggested that you initially perform this upgrade on your lab equipment and not initially in a production environment and test for any and all needed functionality before deploying.

Image upgrade for SL-24-E will be copied to flash during image upgrade (bootimage upgrade) and will not take effect until the system is rebooted / power cycled.

To perform the firmware upgrade using FTP, use the *ftp* command to load the images into memory, then the *bootimage upgrade* commands. The FTP method is much faster and has built in error checking than TFTP. If you prefer to use the TFTP method, instructions can be found in subsequent pages.

All that is needed is the IP address of the ftp server, a username/password, and the filename to be uploaded.   The new file to be uploaded should be placed on the server. The ftp server will prompt for the password before allowing access.

If the SL-24-E is configured with a route to the Internet, you can even pull the new software images directly from the Trango ftp server. If you would rather load them into a local server, please change the IP addresses and directory structure in the examples below as needed. You will need an appropriate default gateway setup in the SL-24-E as well as a route to the Internet through out of band management or IBM.

1. Plan to use the file directly from Trango's FTP server or copy it to your own local FTP server. It is recommend to verify the file name and path to ensure that nothing has changed since this document was prepared.

2. Write down the current version of the firmware loaded in the radio (CLI: *version* command).

3. Connect Management Ethernet port to PC.

4. Configure an IP address in unit if not already done.

5. Start a Telnet or SSH session. Log into the SL-24-E, go to config node, and then debug node to test connectivity to your ftp server.
   (CLI-view)# config
   Password: trango
   (CLI-config)# debug

> *Debug> ping 74.62.177.9*
> *PING 74.62.177.9 (74.62.177.9): 56 data bytes*
> *64 bytes from 74.62.177.9: seq=0 ttl=127 time=0.965 ms*
> *64 bytes from 74.62.177.9: seq=1 ttl=127 time=10.009 ms*

Press ctrl+c to stop the ping.

> *--- 74.62.177.9 ping statistics ---*
> *2 packets transmitted, 2 packets received, 0% packet loss*
> *round-trip min/avg/max = 0.965/5.487/10.009 ms*

If the ping test is not successful, check your IP address and default gateway to ensure that those are addresses that will reach the Internet through your firewall.

6. After verifying connectivity, return to config node and save your config if not already saved:

> *Debug> cli*
>
> *Trango System: Trango StrataLink 24 Command Line Interface v2.1.1*
>
> *(CLI-view)# config*
> *Password: trango*
> *(CLI-config)# config save*
> **New configuration saved**
>
> **SUCCESS**

7. Run the *ftp* command from the command line as follows to open access to the server:

> *(CLI-config)# ftp 74.62.177.9 giga*
> *password: giga4773*

If prompted for the password multiple times, check the connectivity to the server by pinging the FTP server IP address from the debug prompt. You may also test the ftp credentials from a laptop or other computer on the same network subnet.

8. Next, get the new firmware image from the FTP server by typing the get command from the ftp prompt.

> *ftp> get TL-StrataLink/SL24_v3.0.tar.gz*
> *##########*
>
> *Get operation successful with passive mode*

9. Logout of the ftp session

> *ftp> logout*

10. Write the new firmware image to FLASH memory using the *bootimage upgrade* command. **DO NOT REBOOT OR REPOWER THE RADIO UNTIL THIS PROCESS COMPLETES, WHICH MAY TAKE UP TO 15 MINUTES.**

> *(CLI-config)# bootimage upgrade*
>
> *. . . . .*
> *. . . . .*
> *. . . . .*

SUCCESS

11. After the process returns success, reboot the radio for the new image to be loaded into active memory.
     (CLI-config)# reboot

12. Check the new version on the system with CLI *version* command. It should match with the versions listed earlier. **In case of mismatch version, please perform the upgrade again from step 1.**

FPGA version:	0002040E
OS version	**2p6r22b0D060414**
FW version	**3p0r0D060414**
Modem Version	6201.6.47

Please follow all the instructions as listed above in the upgrade instructions. In the case of version mismatch on the system (local/remote/system) the system is NOT guaranteed to work. In the event of a power failure during the upgrade process or any mismatch conflict, please open a support request at support.trangosys.com for further assistance. Serial console remote access to the OMUs might be required in the event of such failure. It is suggested that all customers have at least one serial/console cable available at each site.

Please don't make any implicit assumptions.
In case of any doubt please contact technical support for clarification.

Software Image Upgrade Procedure - TFTP
(All Versions)

Please review these instructions before starting to ensure that you have adequate time scheduled to perform the upgrade as well as fully understand the implications of the process. While all software is tested by Trango Systems on current hardware before being released, it is strongly suggested that you initially perform this upgrade on your lab equipment and not initially in a production environment and test for any and all needed functionality before deploying.

Image upgrade for SL24 will be copied to flash during image upgrade (bootimage upgrade) and will not affect the working link until the system is rebooted / power cycled.

Contrary to the FTP method, the TFTP method does not require access to an FTP server, but instead requires the use of a TFTP client included in many operating systems. Third party tools such as tftpd32 can also be used.

1. Download the software image from the support portal at support.trangosys.com or FTP server to your local computer.

2. Note down the current version of the firmware loaded in the radio (CLI version).

3. Connect Management Ethernet port to PC.

4. Configure an IP address in unit if not already done.

5. Start a Telnet or SSH session. Log into the SL-24-E, go to config node and save your config if not already saved:

    Trango System: Trango StrataLink 24 Command Line Interface v2.1.1

    (CLI-view)# config
    Password: trango
    (CLI-config)# config save
    New configuration saved

    SUCCESS

6. Turn TFTPd service on the radio ON with command:

    (CLI-config)# tftpd on

7. Send new firmware image to target radio. (This is not done inside the radio – it is done in another window on your local computer.)

==In DOS window==, type command:

> *dos> tftp –i [ip address] put SL24_v3.0.tar.gz*
>> IP Address of the Radio.

==In Mac/Linux window==, type commands:

> *# tftp*
> *tftp> mode binary*
> *tftp> connect [radio ip address]*
> *tftp> put SL24_v3.0.tar.gz*
> *tftp> quit*

13. Write the new firmware image to FLASH memory using the *bootimage upgrade* command. **DO NOT REBOOT OR REPOWER THE RADIO UNTIL THIS PROCESS COMPLETES, WHICH MAY TAKE UP TO 15 MINUTES.**

> *(CLI-config)# bootimage upgrade*

> ....
> ....
> ....

> *SUCCESS*

8. After the process returns success, reboot the radio for the new image to be loaded into active memory.
> *(CLI-config)# reboot*

9. Check the new version on the system with CLI command "version". It should match with the versions listed earlier. **In case of mismatch version, please perform the upgrade again from step 1.**

FPGA version:	0002040E
OS version	**2p6r22b0D060414**
FW version	**3p0r0D060414**
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Please follow all the instructions as listed above in the upgrade instructions. In the case of version mismatch on the system (local/remote/system) the system is NOT guaranteed to work. In the event of a power failure during the upgrade process or any mismatch conflict, please open a support request at support.trangosys.com for further assistance. Serial console remote access to the units might be required in the event of such failure. It is suggested that all customers have at least one serial/console cable available at each site.

Please don't make any implicit assumptions.
In case of any doubt please contact technical support for clarification.

StrataLINK 24 Encryption Software Change History

Software Version 2.1.1

FPGA version:	0007020E
OS version	**2p6r22b0D040414**
FW version	**2p1r1D040414**
Modem Version	6201.5.36

Bugs Fixed

1. General enhancement to speed up response time from web interface and command line interface. This release will also improve overall management stability.
2. Optimized RSSI over temperature variation.
3. Reduced bootimage upgrade execution time. This will take effect on after FW 2.1.1 is installed on subsequent updates.
4. After bootimage process is finish "SUCCESS" message will be shown.
5. BER on WEB interface displays correctly.

Software Version 2.1.0

FPGA version:	0007020E
OS version	**2p6r22b0D022114**
FW version	**2p1r0D022114**
Modem Version	6201.5.36

Bug Fixes: